

JOHNSON SPACE CENTER



NASA Human Health and Performance Center Workshop
September 18, 2014

JSC VISION

Lead a global enterprise in human space exploration that is sustainable, affordable, and benefits all humankind

JSC MISSION

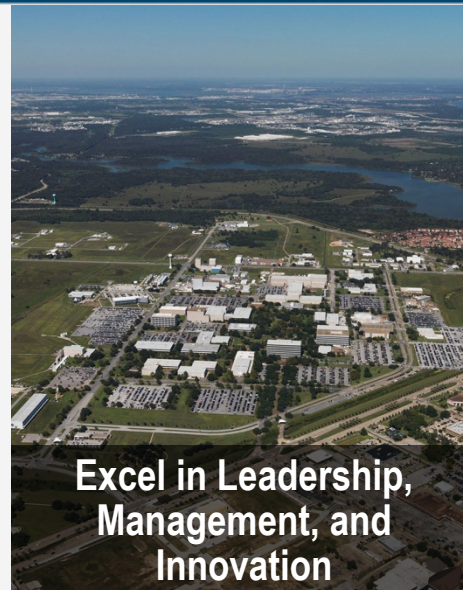
Provide and apply the preeminent capabilities to develop, operate, and integrate human exploration missions spanning commercial, academic, international, and US government partners



Lead Human Exploration



Lead Internationally



**Excel in Leadership,
Management, and
Innovation**



**Expand Relevance to
Life on Earth**

Exploit the ISS as a cornerstone of human exploration

Enable commercialization of LEO

Extend human exploration beyond LEO

Leverage ISS experience to lead international community participation

Guide development of Global Exploration Roadmap

Champion international participation in the development of exploration capabilities

Lead through innovative technical and business management practices

Lead by Fully engaging the human spaceflight team

Intertwine JSC in mutually beneficial partnerships

Inform, educate and engage all generations to advance exploration

Strategically communicate JSC's relevance

HUMAN EXPLORATION

NASA's Path to Mars



EARTH RELIANT

MISSION: 6 TO 12 MONTHS
RETURN TO EARTH: HOURS



Mastering fundamentals
aboard the International
Space Station

U.S. companies
provide access to
low-Earth orbit

PROVING GROUND

MISSION: 1 TO 12 MONTHS
RETURN TO EARTH: DAYS

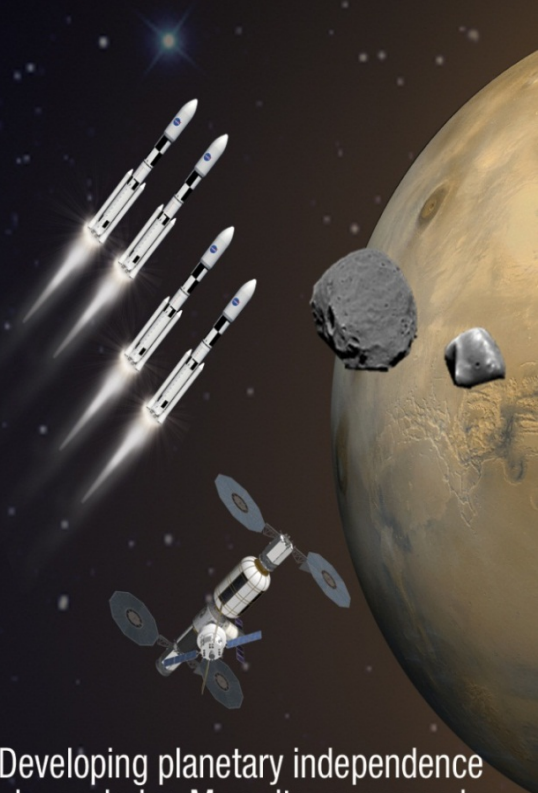


Expanding capabilities by
visiting an asteroid redirected
to a lunar distant retrograde orbit

The next step: traveling beyond low-Earth
orbit with the Space Launch System
rocket and Orion spacecraft

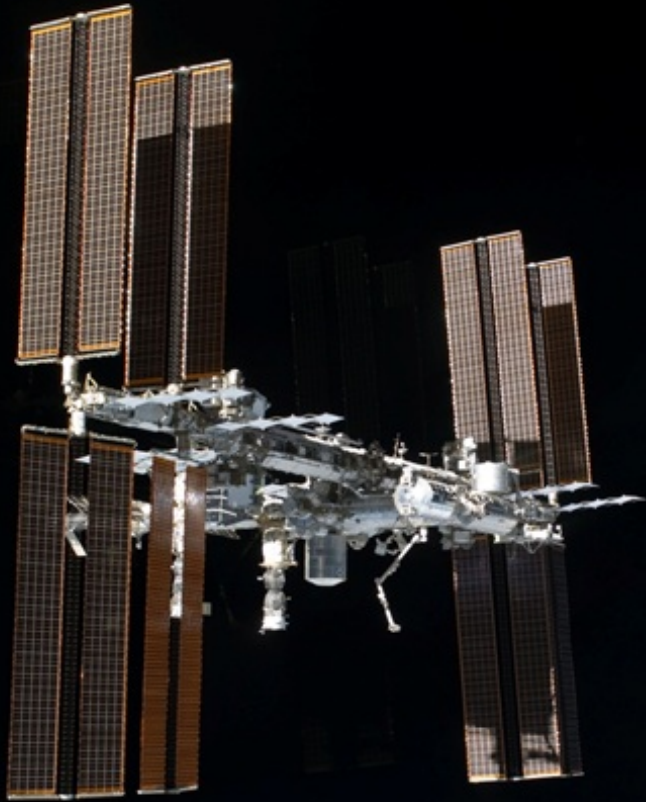
MARS READY

MISSION: 2 TO 3 YEARS
RETURN TO EARTH: MONTHS



Developing planetary independence
by exploring Mars, its moons and
other deep space destinations

INTERNATIONAL SPACE STATION



Created By 5 Space Agencies
Representing 15 Nations

More than 5,000 days of
humans living aboard

Current crew of 6; 214 have
lived on space station

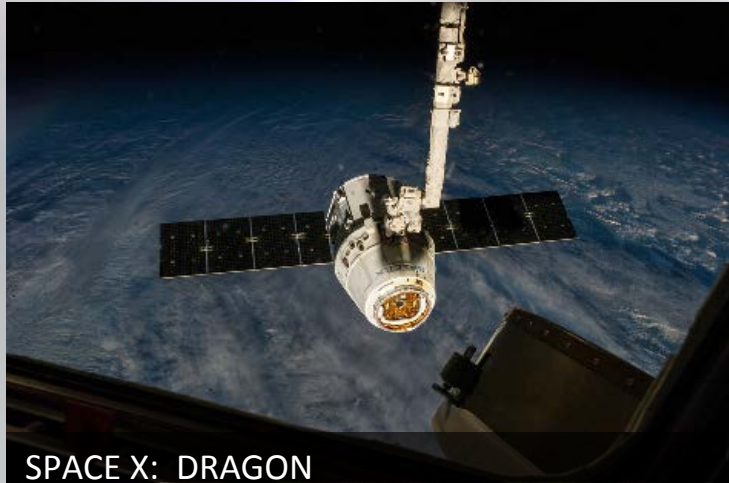
24,000+ hours of scientific
research; 1,500+ experiments

Technology Test Bed
for Deep Space Exploration



COMMERCIAL CARGO AND CREW TRANSPORT

CARGO



SPACE X: DRAGON



ORBITAL SCIENCES: CYGNUS

CREW



BOEING: CST-100



SPACE X: DRAGON



SIERRA NEVADA: DREAM CHASER



BLUE ORIGIN

ORION MULTI-PROPOSE CREW VEHICLE: FIRST FLIGHT





JSC 2.0: TRANSFORMING JOHNSON SPACE CENTER







FACILITIES: Mission Control Center Transformation

- Focus technology developments on enabling capabilities for path to Mars
- Utilize open innovation, strategic partnerships and rapid prototyping
- Vacate underutilized buildings and invest in preventive maintenance and mission-critical facilities
- Change processes and structure to be more lean and agile

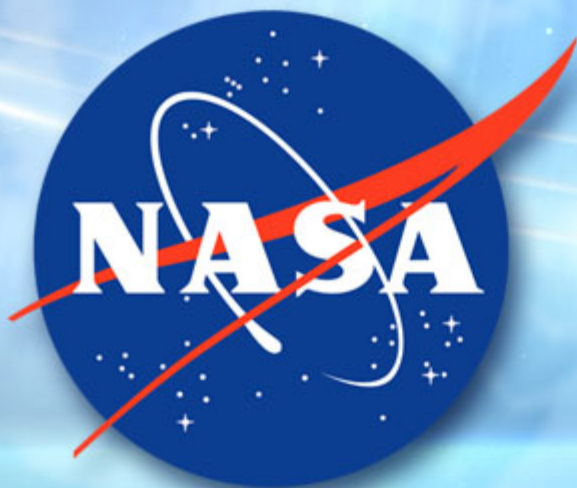


TECHNOLOGY DEVELOPMENT: Rapid Prototyping

Select the Knowledge Maturity Level that best represents your problem:

 Gather	Gather early stage of development, immature, or undefined
 Synthesize	Synthesize analyze existing knowledge, define requirements or define an operational concept
 Validate	Validate evaluate and validate or produce a deliverable
 Apply	Apply integrate a completed, augment an existing, or standardize a deliverable

PROCESSES: Problem Solving Tools



JSC Director News
www.nasa.gov/jsdirectornews

JOHNSON SPACE CENTER
HOUSTON, TEXAS

WWW.NASA.GOV